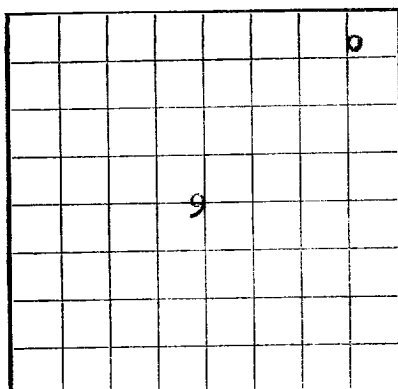


U. S. LAND OFFICE **Santa Fe**  
SERIAL NUMBER **L.C. 065649**  
LEASE OR PERMIT TO PROSPECT

LOCATE WELL CORRECTLY

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
GEOLOGICAL SURVEY

## LOG OF OIL OR GAS WELL

Company **Southern Union Production Co.** Address **1434 Fidelity Union Tower**  
Lessor or Tract **Federal Saunders** Field **Pearl Queen** State **New Mexico**  
Well No. **2** Sec. **9** T. **20-S** R. **35-W** Meridian **N.M.P.M.** County **Lea**  
Location **330** ft. **S.** of **N.** Line and **660** ft. **E.** of **E.** Line of **Section 9** Elevation **3678** GL  
(Derrick floor relative to sea level)  
The information given herewith is a complete and correct record of the well and all work done thereon  
so far as can be determined from all available records.  
Signed **Robert J. Graf** **Robert J. Graf**  
Date **April 13, 1961** Title **Exploration Engineer**

The summary on this page is for the condition of the well at above date.

Commenced drilling **March 8**, 19**61** Finished drilling **March 26**, 19**61**

## OIL OR GAS SANDS OR ZONES

(Denote gas by G)

No. 1, from **4953** to **4957** No. 4, from \_\_\_\_\_ to \_\_\_\_\_  
No. 2, from **4962** to **4970** No. 5, from \_\_\_\_\_ to \_\_\_\_\_  
No. 3, from \_\_\_\_\_ to \_\_\_\_\_ No. 6, from \_\_\_\_\_ to \_\_\_\_\_

## IMPORTANT WATER SANDS

No. 1, from \_\_\_\_\_ to \_\_\_\_\_ No. 3, from \_\_\_\_\_ to \_\_\_\_\_  
No. 2, from \_\_\_\_\_ to \_\_\_\_\_ No. 4, from \_\_\_\_\_ to \_\_\_\_\_

## CASING RECORD

| Size casing  | Weight per foot | Threads per inch | Make     | Amount      | Kind of shoe | Cut and pulled from | Perforated |     | Purpose |
|--------------|-----------------|------------------|----------|-------------|--------------|---------------------|------------|-----|---------|
|              |                 |                  |          |             |              |                     | From—      | To— |         |
| <b>8-5/8</b> | <b>32</b>       | <b>8</b>         | <b>8</b> | <b>4953</b> | <b>8</b>     | <b>4953</b>         |            |     |         |
| <b>4-1/2</b> | <b>30</b>       | <b>8</b>         | <b>8</b> | <b>4957</b> | <b>8</b>     | <b>4957</b>         |            |     |         |
| <b>2-3/8</b> | <b>16</b>       | <b>8</b>         | <b>8</b> | <b>4970</b> | <b>8</b>     | <b>4970</b>         |            |     |         |

## MUDDING AND CEMENTING RECORD

| Size casing  | Where set    | Number sacks of cement | Method used | Mud gravity | Amount of mud used |
|--------------|--------------|------------------------|-------------|-------------|--------------------|
| <b>8-5/8</b> | <b>800'</b>  | <b>150</b>             |             |             |                    |
| <b>4-1/2</b> | <b>3050'</b> | <b>350</b>             |             |             |                    |

## PLUGS AND ADAPTERS

Heaving plug—Material \_\_\_\_\_ Length \_\_\_\_\_ Depth set \_\_\_\_\_  
Adapters—Material \_\_\_\_\_ Size \_\_\_\_\_

## SHOOTING RECORD

| Size                              | Shell used                                          | Explosive used | Quantity | Date | Depth shot | Depth cleaned out |
|-----------------------------------|-----------------------------------------------------|----------------|----------|------|------------|-------------------|
| <b>Perf. 4953-4957, 4962-4970</b> | <b>fract w/20,000 gals. oil, 10,000 sand, 1350'</b> |                |          |      |            |                   |
| <b>Aluminum pellets</b>           |                                                     |                |          |      |            |                   |

## TOOLS USED

Rotary tools were used from **0** feet to **5050'** feet, and from \_\_\_\_\_ feet to \_\_\_\_\_ feet  
Cable tools were used from \_\_\_\_\_ feet to \_\_\_\_\_ feet, and from \_\_\_\_\_ feet to \_\_\_\_\_ feet

## DATES

**April 8**, 19**61** Put to producing \_\_\_\_\_, 19\_\_\_\_  
The production for the first 24 hours was **240** barrels of fluid of which **100** % was oil; \_\_\_\_\_ %  
emulsion; \_\_\_\_\_ % water; and \_\_\_\_\_ % sediment. Gravity, °Bé. \_\_\_\_\_  
If gas well, cu. ft. per 24 hours \_\_\_\_\_ Gallons gasoline per 1,000 cu. ft. of gas \_\_\_\_\_  
Rock pressure, lbs. per sq. in. \_\_\_\_\_

## EMPLOYEES

**McCutcheon Drilling Company**, Driller **Joe Yosten**, Driller  
**E. J. Knight**, Driller **W. A. Young**, Driller

## FORMATION RECORD

| FROM—       | TO—         | TOTAL FEET  | FORMATION                    |
|-------------|-------------|-------------|------------------------------|
| <b>0</b>    | <b>212</b>  | <b>212</b>  | <b>Sand and red bed</b>      |
| <b>212</b>  | <b>1136</b> | <b>924</b>  | <b>Red bed</b>               |
| <b>1136</b> | <b>1545</b> | <b>409</b>  | <b>Red bed and sand</b>      |
| <b>1545</b> | <b>1771</b> | <b>226</b>  | <b>red red</b>               |
| <b>1771</b> | <b>2778</b> | <b>1007</b> | <b>Red bed - anhy - salt</b> |
| <b>2778</b> | <b>3030</b> | <b>252</b>  | <b>Salt and Anhy,</b>        |
| <b>3030</b> | <b>3500</b> | <b>470</b>  | <b>Salt - Anhy - red bed</b> |
| <b>3500</b> | <b>3607</b> | <b>107</b>  | <b>Anhy</b>                  |
| <b>3607</b> | <b>3720</b> | <b>113</b>  | <b>Anhy - lime</b>           |
| <b>3720</b> | <b>3882</b> | <b>162</b>  | <b>Anhy</b>                  |
| <b>3882</b> | <b>3842</b> | <b>20</b>   | <b>Anhy - Gyp</b>            |
| <b>3842</b> | <b>4326</b> | <b>484</b>  | <b>Anhy</b>                  |
| <b>4326</b> | <b>4401</b> | <b>75</b>   | <b>Anhy - lime</b>           |
| <b>4401</b> | <b>4444</b> | <b>43</b>   | <b>Anhy</b>                  |
| <b>4444</b> | <b>4481</b> | <b>37</b>   | <b>Anhy - dolomite</b>       |
| <b>4481</b> | <b>4498</b> | <b>17</b>   | <b>Anhy - lime</b>           |
| <b>4498</b> | <b>4536</b> | <b>38</b>   | <b>Anhy - dolomite</b>       |
| <b>4536</b> | <b>4561</b> | <b>25</b>   | <b>Lime - Anhy</b>           |
| <b>4561</b> | <b>4616</b> | <b>55</b>   | <b>Anhy - dolo - lime</b>    |
| <b>4616</b> | <b>4671</b> | <b>55</b>   | <b>lime</b>                  |
| <b>4671</b> | <b>4755</b> | <b>84</b>   | <b>lime and dolomite</b>     |
| <b>4755</b> | <b>4787</b> | <b>32</b>   | <b>lime</b>                  |
| <b>4787</b> | <b>4957</b> | <b>170</b>  | <b>lime and dolomite</b>     |
| <b>4957</b> | <b>5004</b> | <b>47</b>   | <b>lime</b>                  |
| <b>5004</b> | <b>5050</b> | <b>46</b>   | <b>lime and dolomite</b>     |

5050 TD.

FORMATION RECORD—CONTINUED

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
GEOLOGICAL SURVEY

[illegible][illegible]

Commander, the last \_\_\_\_\_, 19\_\_\_\_. Finished drilling \_\_\_\_\_.

The summary on this page is for the condition of the well as above dated \_\_\_\_\_.

Date \_\_\_\_\_

(b)  $\rho$  and  $\sigma$  are

IMPORTANT WATER SANDS

490089 UNIBAC

It is of the greatest importance to have a complete history of the well. Please state in detail the dates of redrilling, together with the reasons for the work and its results. If there were any changes made in the casing, state fully, and if any casing was "sidetracked" or left in the well, give its size and location. If the well has been dynamited, give date, size, position, and number of shots. If pings or bridges were put in to test for water, state kind of material used, position, and results of pumping or bailing, or other.

U.S. GOVERNMENT PRINTING OFFICE 16-58044-2

[illegible]